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GB 2228275 A EP 0088213 A2 US 5384944 A(71) Applicant(s)  
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(54) A support surface used in needling a fibrous web

(57) Apparatus for needling a fibrous web passing through the apparatus in one direction (into paper), comprises a needle board driven back and forth in a needling direction (11), and a support opposite the needle board. The support surface comprises surface sections (9 and 10) following one another in the direction of motion of the web, with raised formations inclined in different directions with respect to the needling direction (11). The inclined surfaces (6 and 7) form asymmetrical raised ridges which extend in the direction of motion of the fibrous web. The differently inclined surface sections may be arranged on separate parts, and additional conventional surface sections with no ribs may be provided. The ribs may have changing heights in the direction of motion of the fibrous web. The support surface may have a steady curvature in the direction of motion of the fibrous web.

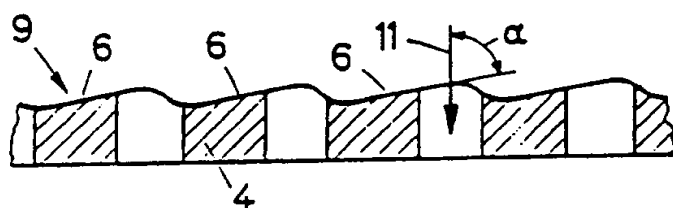


FIG. 3

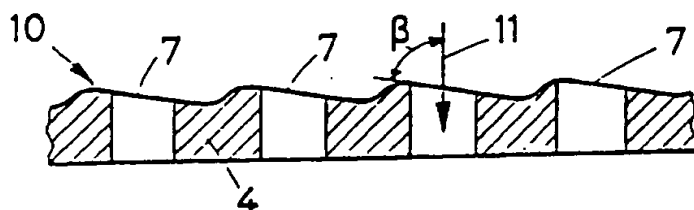


FIG. 4

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